

REMARKS

Applicants courteously direct the Examiner's attention to the Request for Continued Examination (RCE) being filed herewith.

Please amend Claim 1, 8, 13, 15, and 16 as indicated above. Support for the amendments to the claims regarding the pentad isotacticity and the isotactic pentad/triad ratio can be found, for example, at page 4, line 29 through page 5, line 1; and page 5, line 25 through page 6, line 20. Support for the amendments to the claims regarding melting point may be found in the examples.

Applicants believe it is premature at this time to determine whether a terminal disclaimer is necessary, as the claims are being amended and prosecution is continuing. Once Applicants receive indication from the Examiner that the claims at issue are patentable over the prior art (except U.S. Patent No. 7,087,680), then Applicants will address whether a terminal disclaimer would be appropriate.

35 U.S.C. §103(a) Rejection of Claims 1-5, 8-13, 15, 16, and 19-25 and 8-20 Over Lin et al. (US 2004/0171782), optionally in view of Chatterjee (US 5,948,839), Sun (US 6,358,450) or Kuramoto et al. US 6,639,038):

The Examiner in his rejection indicated that Lin et al. (examples 1-5 in particular) disclose polypropylene made using metallocene catalyst wherein the polymer has MWD, MFR, flexural modulus, isotactic ratio, haze and xylene solubles within the scope of Applicants' claimed invention. The Examiner went on to indicate that Lin et al. disclosed ethylene could be used as a comonomer and further indicated that while Lin et al. did not report either crystallinity or the crystallization temperature, he believed these features would be inherent to the polypropylene of Lin et al. in view of the exceedingly low xylene solubles, high isotacticity and high melting temperature disclosed by Lin et al. The Examiner ended his discussion of Lin et al. to indicate that the burden of proof is shifted to Applicants to show that the disclosed polymers would not have the claimed unreported properties.

Applicants disagree with the Examiner in that the polypropylenes disclosed by Lin et al. are actually not high crystalline polypropylene as required by Applicants' current invention. The

reasons why the polypropylenes of Lin et al. are actually not high crystalline resins results from the unique nature by which metallocene catalysts, including those disclosed by Lin et al., operate. It is known to one of skill in the art that metallocene catalyst generally can produce polypropylenes having fairly high stereospecificity (as indicated by pentad isotacticity), but they also have a tendency to produce regioerrors in the polypropylene (see Edward P. Moore, Jr., "Specialty Types and Developments," Polypropylene Handbook: Polymerization, Characterization, Properties, Processing, Applications, pp. 403-406, Cincinnati: Hanser/Gardner Publications, Inc. (1996)) attached hereto. These regioerrors act very similar to inserted ethylene units and thereby reduce the crystallinity of the polypropylene. This results in polypropylenes having lower melting points, lower crystallization temperatures and lower overall crystallinity than even standard crystallinity polypropylene. The lower crystallinity further results in lower flexural modulus values for such metallocene manufactured polypropylene than standard polypropylene. It should be noted that the 1% Secant Modulus values reported in Table 4 of Lin et al. are obtained on biaxially oriented polypropylene (BOPP) films which have been highly oriented in both the in-line direction and the cross-direction. This orientation results in fairly high values of modulus, but they are not comparable to the flexural modulus valued recited in Applicants' Claims, which are measured on injection molded bars in accordance with the procedure of ASTM D790-00. A metallocene resin such as described in Lin et al., when measured in accordance with ASTM D790-00, would exhibit much lower values for Flexural modulus, than the 300,000 psi recited in Applicants' Claim 1. Further, as can be seen from Table 2 of Lin et al., the metallocene made polypropylenes have a much lower value for pentad isotacticity (the highest value recited being 93.4%) than the at least 98% pentad isotacticity requirement of Applicants' currently amended claims. The lower values for pentad isotacticity for the Lin et al. resins will also cause the resins to have lower crystallinity than required for Applicants' currently amended claims.

The Examiner indicates that paragraph [0215] of Lin et al. discloses polypropylenes having a high melting point and therefore high crystallinity. The Applicants would like to point out that at best paragraph [0215] discloses that metallocene polypropylene have a melting point of greater than 155⁰C. However, Lin et al. does not show the melting points for the resins of Examples 1-5, and given the fact that polypropylene made with metallocene catalysts typically have a large amount of regioerrors and the fact that the highest pentad isotacticity exhibited by

the Example resins of Lin et al. was 93.4, it would be next to impossible for the metallocene made polypropylene resins of Lin et al. to exhibit melting points as high as the 165⁰C requirement recited by Applicants' currently amended Claims.

Furthermore, Lin et al. in no way teaches or suggests a polyolefin composition, as recited in Applicants' Claim 16, which is a polyolefin composition having both a highly crystalline polypropylene resin and an impact modifier, which has a density of from 0.885 g/ml to 0.91 g/ml. At page 7, line 34 through page 8, line 2 of Applicants' specification, Applicants describe that the use of an impact modifier having the above densities will enhance the clarity of the overall composition. Lin et al. teaches metallocene made polypropylene which can be made in two steps in two reactors, but in no way teaches or suggests the use of an impact modifier having the densities required by Applicants' Claim 16.

Finally, the Examiner indicates that:

"the examples of Lin do not include a nucleator or clarifier additive; however, these components are described as conventional additives and are suggested for inclusion at [0218] in conventional amounts. One of ordinary skill in the art would be motivated to select an amount within the claimed scope because such amounts are commonly used as additives for the purpose of nucleation and clarification of propylene polymers."

The Examiner then indicates that examples of the use of nucleator or clarifier additives can be found in each of Chatterjee, Sun, and Kuramoto.

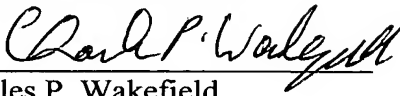
In response to the Examiner's assertion, Applicants urge that, as discussed above, Lin et al. does not teach or suggest a polypropylene resin having the properties required of Applicants' currently claimed invention. Therefore, even if the teachings of Chatterjee, Sun and/or Kuramoto regarding nucleator or clarier additives are combined with the teaching of Lin et al., the combined teachings still do not teach or suggest a highly crystalline polypropylene resin as required by Applicants' currently amended Claims.

For the above reasons, Applicants urge that the currently pending claims are patentable over Lin et al. and Chatterjee, Sun, and/or Kuramoto and request the Examiner to reconsider his

rejection of Claims 1-5, 8-13, 15, 16, and 19-25 as being unpatentable and to find all the pending claims patentable.

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Respectfully submitted,

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